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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/423,911	02/28/2000	REIMAR FINCK	3245-704PUS	7288

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EXAMINER

COMBS, JANELL A

ART UNIT	PAPER NUMBER
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1742

12

DATE MAILED: 05/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-12

Office Action Summary

Application N .

09/423,911

Applicant(s)

FINCK ET AL.

Examiner

Janelle Combs-Morillo

Art Unit

1742

-- The MAILING DATE of this communication appears on the reverse with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term “noncritical temperature range from 260°C to 280°C” appears in claims 5 and 7 and in the present specification at least on page 4 lines 4-5 and page 4 lines 23-24. It is unclear to the examiner the exact meaning of this term. The prior art broadly overlaps the presently claimed “noncritical” hot rolling exit temperature, however, applicant argues the criticality of the presently claimed range (arguments pages 4-5). Appropriate correction/explanation is required.

It is unclear the meaning of “as a final step” (instant claims 5 and 7). The examiner points out that claim 5 is drawn to “a process for producing hot-rolled aluminum strip for can making”, and clearly heating to a recrystallization temperature is not the “final step” in “can making” (the coiled strip must be uncoiled, formed, etc.). Appropriate correction/explanation is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly et al.

Daly et al teaches a process for producing aluminum strip comprising the steps of: hot rolling an aluminum strip in a single stand reversible hot mill (column 3 lines 23-24) while minimizing recrystallization (column 3 lines 36-37), coiling, and annealing in a furnace at 315-399°C (column 3 lines 35, 49-50), which overlaps the presently claimed annealing temperature range. The hot roll exit temperature is 249-405°C, which overlaps the presently claimed hot roll exit temperature range.

Daly et al does not teach a roughing stage to form a strip. However, the examiner asserts that the presently claimed roughing step is included in the step as taught by Daly et al of hot rolling an aluminum strip in a single stand reversible hot mill (column 3 lines 23-24). Daly et al does not specify that the last three hot rolling passes are carried out without recrystallization. However, because Daly et al teaches that “the hot mill schedule is such that recrystallization in the hot mill is minimized or reduced” (Daly column 3 lines 36-37), it would have been within the level of one of ordinary skill in the art to carry out the last three hot rolling passes without recrystallization. Because Daly teaches a process of hot rolling aluminum into a strip with a finishing temperature that overlaps the presently claimed range, followed by coiling said strip, and annealing at temperatures that overlap the presently claimed range, Daly et al is held to create a prima facie case of obviousness of the presently claimed invention.

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly et al. in view of JP 07-041896A (JP'896).

As stated above, Daly et al teaches a process for producing sheet for can stock by hot rolling and heat treating substantially as presently claimed. Daly et al specifies that “the hot mill

Art Unit: 1742

schedule is such that recrystallization in the hot mill is minimized or reduced” (Daly column 3 lines 36-37). Daly teaches the hot roll exit temperature is 249-405°C, which overlaps the presently claimed hot roll exit temperature range (260-280°C).

JP’896 teaches that it is important to warm roll $\geq 30\%$ in a temperature range of 100-350°C after hot rolling, because an Al-Mg type alloy sheet excellent in deep drawability can be produced (wherein said working performed on a Al-Mg alloy creates a particular crystallographic texture that is excellent in formability, see abstract). Because JP’896 teaches warm rolling $\geq 30\%$ reduction, it is held to be within the disclosure of JP’896 to carry out three rolling passes are without recrystallization (instant claim 6).

It would have been obvious to one of ordinary skill in the art to perform the working and heat treating process of Al-Mg strip used for can stock taught by Daly, wherein the strip has a “hot” rolling exit temperature that falls within the presently claimed temperature range because Daly teaches a broadly overlapping temperature range of 249-405°C, and because JP’896 teaches that “hot” rolling in the range of 100-350°C (warm rolling is defined as below the recrystallization temperature, see discussion below) improves deep drawability and formability.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daly et al in view of Lex.

Daly et al teaches an apparatus for hot rolling aluminum comprising: a means for reversing rough rolling (Fig. 1B), a means for finish rolling, said means including a four high reversing roll stand with winding devices on each side (Fig. 1D), a means for transferring said coil to a furnace (column 3 lines 48-49), and a heat treating means (Fig. 1C).

Art Unit: 1742

Daly et al does not teach said heat treating means is a pusher type furnace with a pallet transport system. However, Lex teaches that it is common to use pusher type furnaces when annealing in similar rolling mill trains (column 1 lines 13-16). Daly et al does not teach that one of the winding devices corresponds to the transporting means from the coiler to the furnace. However, because Daly et al teaches a coiling means and a transporting means from the coiler to the furnace, it is held to be within the level of one of ordinary skill in the art for one of the winding devices to correspond with the transporting means, as presently claimed. Because Lex teaches that pusher type furnaces are commonly used in rolling mill trains, it would have been obvious to one of ordinary skill in the art to use a pusher type furnace for a heating means, in the apparatus as taught by Daly et al.

Response to Arguments/ Amendment

7. In the request for continued examination filed on February 11, 2002, applicant amended claims 5 and 7.

The examiner submits that the phrase “as a final step” in independent claims 5 and 7 does not eliminate additional steps after recrystallization for forming aluminum strip for can making (the coiled strip must be uncoiled, formed, etc.). Additionally, it is unclear the meaning of “as a final step” (see above).

Applicant’s argument that the present invention is allowable over the prior art of record because the prior art does not teach an example with the presently claimed hot rolling exit temperature has not been found persuasive. Daly teaches a hot rolling exit temperature range (249-405°C) that overlaps the presently claimed range of 260-280°C, and applicant has not

Art Unit: 1742

shown specific unexpected results with regard to the presently claimed narrow range.

Additionally, the examiner submits that the combination of Daly and JP'896 teach "hot" rolling under the recrystallization temperature (see rejection above).

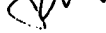
The examiner submits that warm working is defined as working done at elevated temperatures below the recrystallization temperature (ASM Handbook: Desk Edition, 2nd ed, page 62).


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (703) 308-4757. The examiner can normally be reached on 7:30 am- 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7719 for regular communications and (703) 305-7719 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jcm 
April 30, 2002


GEORGE WYSZOMIERSKI
PRIMARY EXAMINER